

We claim:

1. A detector array for use in a laser imaging apparatus, comprising:

5 a) a plurality of housings disposed in an arc around an opening in which an object to be scanned is disposed, each housing including an open front end directed to the object, a rear end and a longitudinal axis;

 b) a detector disposed within each housing at a distance from said front end, thereby to restrict the field of view of each detector;

 c) said housings being adapted to be orbited around the object about an orbit axis; and

 d) each of said detectors being adapted to simultaneously detect light exiting from the object within the respective field of view of each detector.

2. A detector array as in Claim 1, wherein:

 a) each housing longitudinal axis is disposed toward said orbit center.

20 3. A detector array as in Claim 1, wherein:

 a) each housing is tubular.

4. A detector array as in Claim 1, wherein:

 a) each housing is round in cross-section.

5. A detector array as in Claim 1, wherein:

25 a) each housing is square in cross-section.

6. A detector array as in Claim 1, and further comprising:

 a) a lens disposed at each front end of said housings for restricting the field of view of each detector.

30 7. A detector array as in Claim 6, wherein:

a) said lens is plano-convex.

8. A detector array as in Claim 1, wherein:

a) said housings are disposed in a one-dimensional array.

5 9. A detector array as in Claim 1, wherein:

a) said housings are disposed in a two-dimensional array.

10. A detector array as in Claim 1, wherein:

a) at least two housings are directed toward the
10 object being scanned such that their field of views merge together.

11. A detector array as in Claim 1, and further comprising:

a) a sample and hold integrator connected to each
15 detector.

12. A detector array for use in a laser imaging apparatus, comprising:

a) a plurality of paraboloidal mirrors disposed
in an arc around an opening in which an object to be scanned
20 is disposed;

b) a detector disposed at a distance from the focal point of each mirror, thereby to restrict the field of view of each detector;

c) said mirrors being adapted to be orbited
25 around the object about an orbit axis;

d) each mirror including a focal point directed toward said orbit center; and

e) each of said detectors being adapted to simultaneously detect light exiting from the object within
30 the respective field of view of each detector.

13. A detector assembly for use in a laser imaging apparatus, comprising:

- a) a housing having front and rear ends; and
 - b) a photo-detector disposed within said housing
- 5 at a distance from said front end, thereby to restrict the field of view of said detector.

14. A detector as in Claim 13, wherein:

- a) a lens disposed in said front end to restrict the field of view of said detector.

10 15. A method for collecting light exiting from a object being scanned with a light source, comprising:

- a) providing a source of laser beam;
 - b) directing the laser beam toward the object being scanned;
 - c) orbiting the laser beam around the object;
 - d) providing a plurality of sensors adapted to simultaneously detect the laser beam after passing through the object; and
 - e) restricting the field of view of each detector
- 15 so that each detector only sees its own patch of surface of the scanned object, each patch not overlapping with adjacent patch.
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